

Serial No. 09/834,679
April 15, 2002
Page 3

REMARKS

Claims 1, 2 and 4-8 are pending in this application. By this Amendment, Applicant amends claims 7 and 8 and cancels claim 3.

Claims 2 and 3 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant has canceled claim 3 to remove the recitation of paste resin film disposed below the stiffened resin coating layer. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 1-8 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. The Examiner alleged that the terms "front" and "back" have been given meanings repugnant to the usual meaning of the terms. Applicant respectfully disagrees.

Particularly, as seen in Figs. 3 and 4, the piezoelectric sound converter includes a front portion which includes the case 10 and noise-emission hole 11 from which noise is emitted, and a back portion which includes the board 20 from which no noise is emitted. Thus, the front main surface of the diaphragm 1 clearly denotes the top surface which faces the front portion of the piezoelectric sound converter, and the back main surface of the diaphragm 1 clearly denotes the bottom surface which faces the back portion of the piezoelectric sound converter. Therefore, Applicant respectfully submits that the use of the terms "front" and "back" is **NOT** "repugnant" to the usual meaning of the terms. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 1, 4 and 5 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ormerod et al. (U.S. 6,118,207), taken alone. Applicant respectfully traverses this rejection.

Claim 1 recites:

"A piezoelectric type electric acoustic converter comprising:
a plurality of piezoelectric ceramic layers which are laminated to
define a laminate;
main surface electrodes disposed on front and back main surfaces
of said laminate, an internal electrode disposed between respective
ceramic layers, and **all of the ceramic layers are polarized in the same
direction which is a thickness direction thereof;**
**said piezoelectric type electric acoustic converter generates
bending vibration in response to application of an alternating signal
between the main surface electrodes and the internal electrode; and**
**a resin layer arranged to cover substantially all of the front and
back surfaces of the laminate."** (Emphasis added)

The Examiner alleged that Ormerod "discloses in the **fig. 3** a rectangular laminated ceramic bender with resin barrier". Further, the Examiner acknowledged that Ormerod fails to teach or suggest the polarization directions of the layers of the laminated ceramic bender. However, the Examiner took "Official Notice that it would have been well known in the art that benders use laminates that are polarized in the same direction", and thus, concluded that it would have been obvious to use polarization in the same directions "for the purpose of creating a bending device". Applicant respectfully disagrees.

In contrast to the present claimed invention, Ormerod teaches a conductive coating 18 which "may be a metal alloy, a gel, or any other conductive material" (**not** a resin layer), or alternatively, the conductive coating 18 may be coated by another coating of a non-porous hydrophobic material, such as parylene, which is clearly not a resin (see col. 3, lines 16-25). Thus, contrary to the Examiner's allegation, Ormerod fails to teach or suggest any resin layer, and certainly fails to teach or suggest "a resin layer arranged to cover substantially all of the front and back surface of the laminate" as recited in claim 1 of the present application.

Additionally, the Examiner alleged that "it would have been well known in the art that benders use laminates that are polarized in the same direction". However, the PTO has the burden under 35 U.S.C. §103 to establish a prima facie case of obviousness. See In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984).

Serial No. 09/834,679
April 15, 2002
Page 5

The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1984). This it has not done. The Examiner failed to cite prior art that remedies the deficiencies of Ormerod or that suggests the obviousness of modifying Ormerod to achieve Applicant's claimed invention.

Instead, the Examiner improperly relied upon hindsight reconstruction of the claimed invention in reaching his obviousness determination. To imbue one of ordinary skill in the art with knowledge of the invention, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 1543, 220 USPQ 303, 312-13 (Fed. Cir. 1983).

Prior art rejections must be based on evidence. Graham v. John Deere Co., 383 U.S. 117 (1966). Pursuant to MPEP 706.02(a), the Examiner is hereby requested to cite a reference in support of his position that it was well known at the time of Applicant's invention to polarize all of the ceramic layers in the same direction. If the rejection is based on facts within the personal knowledge of the Examiner, the data should be supported as specifically as possible and the rejection must be supported by an affidavit from the Examiner, which would be subject to contradiction or explanation by affidavit of Applicants or other persons. See 37 C.F.R. §1.107(b).

Furthermore, Ormerod teaches a piezoelectric actuator which is actuated to bend when a DC current is applied thereto. The piezoelectric actuator of Ormerod does not produce any vibration, but rather merely bends in response to the application of the DC current. Thus, Ormerod fails to teach or suggest "a piezoelectric type electric acoustic converter" which generates "bending vibration in response to application of an alternating signal" as recited in claim 1 of the present invention.

Serial No. 09/834,679

April 15, 2002

Page 6

Accordingly, Applicant respectfully submits that Ormerod fails to teach or suggest the unique combination and arrangement of elements recited in claim 1 of the present application.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 1 is allowable. Claims 2 and 4-8 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing Amendments and Remarks, Applicant respectfully submits that this Application is in condition for allowance. Favorable consideration and prompt allowance are respectfully solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: April 15, 2002


Attorneys for Applicant

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710

KEATING & BENNETT LLP
10400 Eaton Place, Suite 312
Fairfax, VA 22030
Telephone: (703) 385-5200
Facsimile: (703) 385-5080

Serial No. 09/834,679
April 15, 2002
Page 7

VERSION WITH MARKINGS SHOWING CHANGES MADE

7. A piezoelectric type electric acoustic converter according to Claim 6, wherein the first and second side electrodes are arranged to [turn] extend onto the front and back surfaces of the resin layers.

8. A piezoelectric type electric acoustic converter according to in Claim 6, wherein the second side electrode is arranged to [turn] extend onto the front and back surfaces of the laminate, and the resin layers are provided with a first notch where a portion of the main surface electrode on the front and back surfaces are exposed, and a second notch where a portion of the second side electrodes turning to the front and back surfaces of the laminate are exposed.